



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/666,497

09/19/2003

Alexander T. Chenvainu

00216-616001 / OB-211

9179

26161 7590 05/21/2007

FISH & RICHARDSON PC

P.O. BOX 1022

MINNEAPOLIS, MN 55440-1022

EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT

PAPER NUMBER

1744

MAIL DATE

DELIVERY MODE

05/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/666,497 | <b>Applicant(s)</b><br>CHENVAINU ET AL. |  |
|                              | <b>Examiner</b><br>Laura C. Guidotti | <b>Art Unit</b><br>1744                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 35,37-39,41-46,48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35,37-39,41-46,48 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11202006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Information Disclosure Statement of 20 November 2006 includes numerous documents previously considered by the Examiner, the documents previously considered have a line drawn through them.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 35, 37-39, 41-46, and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weihrauch, USPN 6,421,867 in view of Brown, Jr. et al., US 2004/0177462 and further in view of Kressner et al., USPN 6,021,538.

Weihrauch discloses the claimed invention including a power toothbrush comprising a handle (not shown, attached to rightmost end of "14" in Figure 7), a neck extending from the handle (rightmost end of "14" in Figure 7), inherently a motor in the handle to cause the motion shown by the directional arrows in Figure 7 (Column 3 Lines 41-46), a head including a support member (14), the support member including a lower portion to be rotationally oscillated (lower portion is the bottommost portion of "14"; directional arrow 16, Column 3 Lines 41-46), and a top surface having an elongated shape that appears to be oval or a rounded diamond (see Figures 6 and 8), a major axis of the elongated shape being disposed generally parallel to a long axis of the handle (Figures 6 and 8), and a plurality of tufts of bristles extending from the support member (18). There is also a second group of other tufts of bristles (7) that also extend from the support member in order to clean interdental spaces (Column 2 Lines 15-17), however Weihrauch does not disclose a plurality of elastomeric fins pivotably mounted in and extending from the support member. Also, Weihrauch does not disclose a length, width, or an overall surface area of the toothbrush head.

Brown, Jr. et al. disclose the claimed invention including a support member (20, 22), the support member including a lower portion (bottom surface portion as shown in Figure 3) and a top surface (upper surface portion as shown in Figure 3) having an elongated shape such as an oval (see Figure 2), a plurality of tufts of bristles extending from the support member (28, 34, 36, or 38), and a plurality of elastomeric fins pivotally mounted in and extending from the support member (80; Figures 17-18; Paragraphs 53-54), each fin having a textured surface comprising ribs (82; Paragraph 53). The tufts of

Art Unit: 1744

bristles and elastomeric fins have at least three different heights (see Figure 3; Paragraphs 33-37 and 54 give specific heights). The tufts of bristles and elastomeric fins are arranged so that their tips define a rounded contour (see Figure 2).

Kressner et al. disclose a toothbrush head having a support member with a top surface having an overall surface area from about 170 to 200mm<sup>2</sup> (Column 3 Lines 47-50; when the diameter is 15mm the area is 176.625 mm<sup>2</sup>.) The top surface has a major of 15mm, which falls into the range of having a length of about 14 to 19 mm and a width of about 12 to 15mm (see Column 3 Lines 47-50).

It would have been obvious for one of ordinary skill in the art to substitute the tooth cleaning elements of Weihrauch for the tooth cleaning elements that include both tufts of bristles and a plurality of elastomeric fins pivotably mounted in and extending from the support member, as Brown, Jr. et al. teach, in order to provide bristles for cleaning teeth and elastomeric fins that have textured ribs for enhanced cleaning of interdental spaces and also it would have been obvious for one of ordinary skill in the art to modify the specific dimensions of the support member of the toothbrush head of Weihrauch and Brown, Jr. to have an overall surface area from about 170 to 200mm<sup>2</sup>, a length of about 14 to 19 mm, and a width of 12 to 15 mm, as Kressner et al. teach, in order to have a reasonable sized toothbrush head capable of sufficiently cleaning the oral cavity.

3. Claims 35, 39, 41-43, 46, and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biro et al., US 2002/0157198 in view of Calabrese, US

Art Unit: 1744

2002/0138928, in further view of White, USPN 5,930,861 and in even further in view of Kressner et al., USPN 6,021,538.

Biro et al. disclose the claimed invention including a handle (not shown, paragraph 39), a neck extending from a handle (114, 20, 30), a motor within the handle (not shown, paragraph 33), and extending from the neck a head including a support member (24, 124, 155), the support member including a lower portion constructed to be rotationally oscillated relative to the neck by the motor (see Figures, via slots 52, 128, 128'; paragraph 53), and a top surface having an elongated shape that is elliptical (see Figures), a major axis of the elongated shape being disposed generally parallel to a long axis of the handle (see Figures), and a plurality of tufts of bristles extending from the support member (5a, 6, 8; see Figures). Biro et al. does not disclose a plurality of elastomeric fins pivotably mounted and having a textured surface or specific dimensions of the support member.

Calabrese teaches a powered oscillating toothbrush head (paragraph 23) having both conventional bristle tufts (7) and elastomeric fins (6; paragraph 18) pivotably mounted (as the fins themselves are capable of pivoting relative to the head, paragraphs 16-18) to provide a polishing benefit to teeth surfaces (paragraph 20) and improved sensory benefits (paragraph 22). Calabrese also teaches that the tufts of bristles and elastomeric fins in combination are arranged so that their tips define a rounded contour (see Figures 2-3).

White teaches a toothbrush that has a plurality of fins that have a textured surface (18) so that when the head is moving in a circular motion the projections will

Art Unit: 1744

stimulate the sulcus of the gums and to clean adjacent tooth enamel (Column 3 Lines 7-17).

Kressner et al. disclose a toothbrush head having a support member with a top surface having an overall surface area from about 170 to 200mm<sup>2</sup> (Column 3 Lines 47-50; when the diameter is 15mm the area is 176.625 mm<sup>2</sup>.) The top surface has a major of 15mm, which falls into the range of having a length of about 14 to 19 mm and a width of about 12 to 15mm (see Column 3 Lines 47-50).

It would have been obvious for one of ordinary skill in the art to modify the toothbrush of Biro et al. to further include pivotably mounted elastomeric fins, as Calabrese teaches, to polish teeth and to improve sensory benefits to the gums while brushing, and it would have been obvious for one of ordinary skill in the art to modify the fins of Biro et al. and Calabrese to have a textured surface, as White teaches, in order to stimulate the sulcus of the gums and to clean teeth enamel beneficially, and even further it would have been obvious for one of ordinary skill in the art to modify the toothbrush head of Biro et al., Calabrese, and White to have an overall surface area from about 170 to 200mm<sup>2</sup>, a length of about 14 to 19 mm, and a width of 12 to 15 mm, as Kressner et al. teach, in order to have a reasonable sized toothbrush head capable of sufficiently cleaning the oral cavity.

4. Claims 37 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biro et al., US 2002/0157198, Calabrese, US 2002/0138928, White, USPN 5,930,861, and Kressner et al., USPN 6,021,538 as applied to claims 35 and 43 respectively, in view of Coney et al., USPN 1,924,152.

Biro et al., Calabrese, White, and Kressner et al. disclose all elements mentioned above, however do not disclose that the textured surface comprises ribs.

Coney et al. teach that ribs (4) on a rubber or elastomeric fin (3) massages the gums and cleans teeth (Page 1 Lines 66-78).

It would have been obvious for one of ordinary skill in the art to modify the textured surface of the elastomeric fins of Biro et al., Calabrese, White, and Kressner et al. to further include ribs, as Coney et al. teach, in order to provide additional means and surfaces for massaging gums and cleaning the teeth.

5. Claims 38 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biro et al., US 2002/0157198, Calabrese, US 2002/0138928, White, USPN 5,930,861, and Kressner et al., USPN 6,021,538 as applied to claims 35 and 43 respectively, in view of Carlucci et al., US 2002/0108194.

Biro et al., Calabrese, White, and Kressner et al. disclose all elements mentioned above, however do not disclose that the tufts of bristles and elastomeric fins, in combination, have at least three different heights.

Carlucci et al. teaches a powered toothbrush head having at least three differing heights of cleaning elements across the surface of a support member of a brush head (see Figures) so that outer rows of cleaning elements clean between teeth and gums, middle elements clean tooth surfaces, and the innermost row of tufts can clean interproximal tooth surfaces (Abstract).

It would have been obvious for one of ordinary skill in the art to modify the elastomeric fin and tufts of bristles of Biro et al., Calabrese, White, and Kressner et al.



Art Unit: 1744

to further include at least three different heights, as Carlucci et al. teach, in order to provide specific heights of cleaning bristles so as to properly and simultaneously clean between the teeth and gums, the tooth surfaces themselves, and interproximal spaces.

***Response to Arguments***

6. Applicant's arguments filed 16 March 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Weihrauch discloses the claimed invention as stated above, however does not disclose a plurality

Art Unit: 1744

of elastomeric fins pivotably mounted in and extending from the support member and also does not disclose a length, width, or an overall surface area (or any other dimension regarding the head) of the toothbrush head. Brown teaches in particular tooth cleaning elements that include both tufts of bristles and a plurality of elastomeric fins pivotably mounted in and extending from the support member. Kressner et al. disclose in particular specific dimensions of a toothbrush head. Therefore, it would have been obvious to substitute the tooth cleaning elements of Weihrauch for the tooth cleaning elements that include both tufts of bristles and a plurality of elastomeric fins pivotably mounted in and extending from the support member, as Brown, Jr. et al. teach, in order to provide bristles for cleaning teeth and elastomeric fins that have textured ribs for enhanced cleaning of interdental spaces and also it would have been obvious for one of ordinary skill in the art to modify the specific dimensions of the support member of the toothbrush head of Weihrauch and Brown, Jr. to have an overall surface area from about 170 to 200mm<sup>2</sup>, a length of about 14 to 19 mm, and a width of 12 to 15 mm, as Kressner et al. teach, in order to have a reasonable sized toothbrush head capable of sufficiently cleaning the oral cavity. Further, regarding the combination of Biro, Calabrese, White, and Kressner: Biro et al. disclose the claimed invention as previously stated above, however does not disclose a plurality of elastomeric fins pivotably mounted and having a textured surface or specific dimensions of the support member. Calabrese teaches a toothbrush head having both conventional bristle tufts and elastomeric fins pivotably mounted to provide a polishing benefit to teeth surfaces and improved sensory benefits. White teaches a toothbrush that has a plurality of fins

Art Unit: 1744

that have a textured surface so that when the head is moving in a circular motion the projections will stimulate the sulcus of the gums and to clean adjacent tooth enamel. Kressner et al. teaches particular dimensions of a toothbrush head, see above. It would have been obvious to modify the toothbrush of Biro et al. to further include pivotably mounted elastomeric fins, as Calabrese teaches, to polish teeth and to improve sensory benefits to the gums while brushing, and it would have been obvious for one of ordinary skill in the art to modify the fins of Biro et al. and Calabrese to have a textured surface, as White teaches, in order to stimulate the sulcus of the gums and to clean teeth enamel beneficially, and even further it would have been obvious for one of ordinary skill in the art to modify the toothbrush head of Biro et al., Calabrese, and White to have an overall surface area from about 170 to 200mm<sup>2</sup>, a length of about 14 to 19 mm, and a width of 12 to 15 mm, as Kressner et al. teach, in order to have a reasonable sized toothbrush head capable of sufficiently cleaning the oral cavity.

The Applicant further contends that because Weihrauch and Kressner are generally directed to electric toothbrushes and Brown is generally directed to a mechanical toothbrush. However, it is well known that manual ("mechanical") toothbrushes are capable of being electrically powered (as evidenced by Kott, US 3,196,299 and Urbush US 3,316,576). Whether the toothbrushing motion is from an "electric" source or "mechanical" source, it does not change the Examiner's position in that it would have been obvious to substitute the cleaning elements of Weihrauch for those taught by Brown and to modify the specific dimensions of a toothbrushing head to those dimensions taught by Kressner et al. Weihrauch, Kressner, and Brown all teach

Art Unit: 1744

toothbrush heads, that when combined, include all features of the claimed invention.

For these same reasons, Biro, Calabrese, White and Kressner all teach toothbrush heads, when combined, include all features of the claimed invention.

In response to applicant's argument that the examiner has combined an excessive number of references (four references), reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

### **Conclusion**

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

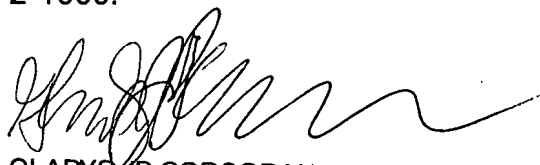
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

Art Unit: 1744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LCg  
lcg

  
GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER